

CLAIMS

[Claim 1] An air cleaner comprising a main body with an inlet port and an outlet port formed thereon and provided with air blower means therein, an antiallergenic filter having an aromatic hydroxyl compound installed in the air flow passage of the air blower means inside the main body, wherein the inlet port formed in the main body is provided at the lower part of the front panel, such that the suction air flow may be formed along the floor plane.

[Claim 2] An air cleaner as claimed in claim 1, wherein the aromatic hydroxyl compound is constituted by poly-4-vinylphenol.

[Claim 3] An air cleaner as claimed in claim 1, wherein the outlet ports are provided to the both side panels of the main body.

[Claim 4] An air cleaner as claimed in claim 1, wherein a dust sensor is provided to the lower part of the main body, and the air cleaner is so constituted that the main body is automatically operated when dust is detected by the dust sensor.

[Claim 5] An air cleaner as claimed in claim 1, wherein an assistant inlet port is provided to the side panel of the main body.

[Claim 6] An air cleaner as claimed in claim 5, wherein a shield part is provided so as to be protruded out from the side panel

of the main body, on the front part of the assistant inlet port provided to the side panel of the main body, in such a manner that the assistant inlet port may not be directly visualized from the front side.

[Claim 7] An air cleaner as claimed in claim 1, wherein a deodorizing filter is provided inside the main body and a gas sensor is provided to the upper part of the main body, and the air cleaner is so constituted that the main body is automatically operated when a gas is detected by the gas sensor.

[Claim 8] A treating solution characterized in that it is prepared by dissolving and/or dispersing a water-soluble material and a water-insoluble material in a mixed solvent of water and a cellosolve and/or a carbitol.

[Claim 9] A treating solution as claimed in claim 8, characterized in that the water-soluble material and the water-insoluble material are a mixture of two or more materials selected from a material having antibacterial properties, a material having antifungal properties, a material having antivirus properties, a material having antiallergenic properties, a material used as a colorant, and a material having hygroscopic properties.

[Claim 10] A treating solution as claimed in claim 8, characterized in that the water-soluble material is a catechin.

[Claim 11] A treating solution as claimed in claim 8, characterized in that the water-insoluble material is a high

molecular antiallergenic agent having a high molecular phenolic hydroxyl group.

[Claim 12] A treating solution as claimed in claim 8, characterized in that the ratio (volume ratio) of a cellosolve and/or a carbitol contained in the mixed solvent of water and a cellosolve and/or a carbitol is in a range from 20% to 99%.

[Claim 13] A method for manufacturing a functional filter, characterized in that the treating solution as claimed in claim 8 is adhered to a filter base material, and dried thereafter.

[Claim 14] A method for manufacturing a functional filter as claimed in claim 13, characterized in that the treating solution as claimed in claim 8 is applied to the high-porosity part of the filter, and dried thereafter.

[Claim 15] A method for manufacturing a functional filter, characterized in that a fiber raw material is immersed in the treating solution as claimed in claim 8, and the fiber obtained after drying is finished into a filter-like shape.

[Claim 16] A method for manufacturing a functional filter as claimed in claim 13, characterized in that the drying temperature is 150°C or lower.

[Claim 17] A functional filter characterized in that it is manufactured by the method as claimed in claim 13.

[Claim 18] A humidifying filter characterized in that it is made by coating a filter formed from a water-absorbing filter base material with the treating solution as claimed in claim

8.

[Claim 19] A device characterized in that a functional filter as claimed in claim 17 and/or a humidifying filter as claimed in claim 18 is/are disposed between an air inlet port and an outlet port.

[Claim 20] A device as claimed in claim 19, characterized in that a dust collector filter is provided to the back stage of the filter.

[Claim 21] A device as claimed in claim 19, characterized in that it is one selected from an air cleaner device, a ventilator device, a humidifier device, a heater device, a dehumidifier device, a mattress drier, an air conditioner, and a heat exchanger device.

[Claim 22] A water treatment device characterized in that a functional filter as claimed in claim 17 and/or a humidifying filter as claimed in claim 18 is/are disposed between a water inlet port and a water discharge port.

[Claim 23] A device as claimed in claim 19, characterized in that the treating solution as claimed in claim 8 is applied to the surface of the outer frame of the main body.

[Claim 24] A mask characterized in that it comprises a functional filter as claimed in claim 17.

[Claim 25] A functional filter as claimed in claim 17, characterized in that it is colored using a treating solution as claimed in claim 8 containing a material used as a colorant.

[Claim 26] A device as claimed in claim 23, characterized in that it is colored using a treating solution as claimed in claim 8 containing a material used as a colorant.

[Claim 27] An air cleaning filter characterized in that it contains adhered thereon two or more materials selected from a material having antiallergenic properties, a material having antibacterial properties, a material having antivirus properties, and a material having antifungal properties.

[Claim 28] An air cleaning filter as claimed in claim 27, characterized in that the material having antiallergenic properties is an antiallergenic agent having a high molecular phenolic hydroxyl group.

[Claim 29] An air cleaning filter as claimed in claim 27, characterized in that a catechin is incorporated as a material having antivirus properties.

[Claim 30] An air cleaning filter as claimed in claim 27, characterized in that an enzyme is incorporated as a material having antibacterial properties.

[Claim 31] An air cleaning filter as claimed in claim 27, characterized in that it is colored using a material known as a colorant.

[Claim 32] An air cleaning filter as claimed in claim 27, characterized in that the material is adhered to the air cleaning filter at coverage of 0.1 to 10 g/m².

[Claim 33] An air cleaning filter characterized in that the

material as claimed in claim 27 is applied to the high-porosity part of the filter.

[Claim 34] A device characterized in that an air cleaning filter as claimed in claim 27 is disposed between an air inlet port and an outlet port.

[Claim 35] A device as claimed in claim 34, characterized in that a dust collector filter is provided to the back stage of the air cleaning filter.

[Claim 36] A device as claimed in claim 35, characterized in that it is one selected from an air cleaner device, a ventilator device, a humidifier device, a heater device, a dehumidifier device, a mattress drier, and an air conditioner.

[Claim 37] A mask characterized in that it comprises an air cleaning filter as claimed in claim 27.